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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/643,243

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Willem Antheunisse

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06/13/2006

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EXAMINER

HENDRICKS, KEITH D

ART UNIT

PAPER NUMBER

1761

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/643,243	<b>Applicant(s)</b> ANTHEUNISSE ET AL.	
	<b>Examiner</b> Keith Hendricks	<b>Art Unit</b> 1761	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>01/04 &amp; 06/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

Claims 9 and 16 are objected to because of the following informalities: the terms “flavouring” and “colouring”. Applicant is requested to amend the claims to comply with accepted U.S. spelling and terminology. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

*The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.*

*It is noted that a simple preliminary amendment to convert the claims to accepted U.S. practice would have saved time and avoided several rejections below.*

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: those which would result in the recited “aerated frozen confection.” The only recited physical components are (i) a ferulyolated polymer and (ii) the enzymatic oxidation system, which are, at some point in time, combined with (iii) an unnamed substance which activates the enzymatic system. Collectively, these components would not be considered to form an “aerated frozen confection.” Thus it is unclear as to how this claimed resultant product is actually formed.

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Method claims 1-10 are indefinite, as these claims do not recite positive, active method steps. For example, the phrasing “(a) a base composition... is packed” is not a positively-recited method step. It is suggested that the steps be amended to recite “(a) packing a base composition into a container under conditions... wherein said base composition comprises...”, etc.

In step (c) of claim 1, the term “aeration” does not set forth a positive method step, as discussed above. Further, the claim fails to clearly set forth that which is aerated.

Throughout the claims, the phrase “essentially inactivated”, referring to the enzymatic oxidation system, is indefinite. The intent, metes and bounds of this phrase are unclear. It is unclear as to whether (a) only a portion of the enzyme system is active, i.e. 3%, with the remainder being inactive, or (b) The entire (100%) enzymatic oxidation system is inactive only to a certain degree, for example, the system has 95% activity or capacity, or (c) some other intended interpretation. As the meaning of the phrase cannot be determined, it is indefinite as recited.

Furthermore, the term “inactivated” is indefinite. It is unclear if this is intended to mean that the enzyme system has somehow been rendered incapable of catalyzing reactions, or if the enzyme system is simply not actively catalyzing a reaction due to a lack of substrate, or some other interpretation.

The term “one serving” in claim 4 is a relative term which renders the claim indefinite. It appears that this term is intended to limit the size of the container and/or the size or amount of the contents therein; however, the term “serving” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Throughout the claims, accepted U.S. patent language should be utilized. A recitation of a selection from a group of elements in a claim should comply with accepted U.S. Patent practice with regard to the recitation of Markush grouping of claim elements. Phrases using “comprising” are open sets, and should recite elements in the alternative (i.e. “comprising A, B, C or D”), whereas closed sets (“consisting of”) should recite elements as “selected from the group consisting of A, B, C and D.” See at least claims 5, 8-9, 15-16, and 18.

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Specifically regarding claims 8 and 15, the metes and bounds of the claimed invention are unclear. It is unclear whether the claims encompass any of the following possible interpretations, or some other interpretation:

1. (a) peroxidase,  
(b) a polyphenol oxidase such as catechol oxidase,  
(c) tyrosinase,  
(d) a laccase  
(e) or a combination thereof.
2. (a) peroxidase,  
(b) a polyphenol oxidase such as (i) catechol oxidase or (ii) tyrosinase,  
(c) a laccase or  
(d) a combination thereof;
3. (a) peroxidase,  
(b) a polyphenol oxidase such as (i) catechol oxidase, (ii) tyrosinase, (iii) a laccase or  
(c) a combination thereof;
4. (a) peroxidase,  
(b) a polyphenol oxidase such as (i) catechol oxidase, (ii) tyrosinase, (iii) a laccase or (iv) a combination thereof;

NOTE: Upon amendment of claims 8 and 15, applicant is required to provide a supportive explanation of why the claims are amended as they are, providing an explanation of which enzymes are considered to be encompassed by "a polyphenol oxidase", etc. This can serve to avoid a potential new matter rejection. It is also suggested that any "optional" specific enzymes under a general category be recited in dependent claims instead of alongside the broader genus, to avoid further rejections under this statute.

It is believed that the phrase "15 number %", in claims 7 and 14, should be "15%". It is unclear if another number was to be inserted in the phrase.

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Regarding claims 8, 11, 15 and 18, the phrases “such as”, “eg” and “preferably” render the claims indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Similarly, the use of parentheses in this manner renders the claims indefinite.

In claims 9 and 16, the term “optionally” fails to further limit the claims from which they depend. Dependent claims inherently recite “optional” limitations to the base independent claims, and thus the use of the term “optionally” in the dependent claims renders the metes and bounds of the claims unclear.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sondergaard et al. (WO 00/40098).

Sondergaard et al. discloses a pectin-containing composition for incorporating into various foodstuffs. The pectin composition is disclosed as useful as a fat replacer or emulsifier (bottom pg. 2). The pectin composition also includes an enzyme for crosslinking the pectin (i.e. an “enzyme oxidation system”), including a peroxidase, laccase or phenol-oxidizing oxidase enzymes (pg. 5, ln. 21-34). “When the cross linking agent is an enzyme, the enzyme will typically be contacted with the pectin material wherein the pectin material is in a solution” (pg. 6). Page 4 of the reference states that “it will be

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appreciated by a person skilled in the art that the term 'covalently cross linked' is analogous with the term 'oxidatively cross linked' and with the term 'oxidatively gelled'."

Page 6 of the reference states that

[t]ypically, the pectin material is contacted with the cross-linking agent, for example a laccase, in the presence of atmospheric air. This will normally suffice to ensure an adequate supply of oxygen for oxidation, although forcible aeration of a reaction mixture with air, or possibly even substantially pure oxygen, may be advantageous under certain conditions.

Pages 7-12 of Sondergaard et al. disclose various forms of pectin useful in the invention, with varying amounts of crosslinking, esterification and oxidation. Sugar beet pectin is exemplified. Calcium-dependent forms of pectin are disclosed, as well. Page 12 (bottom) states that the composition is in particulate form of 75-100 microns, which would be in the form of a powder. Page 13 of the reference states that the composition may comprise an emulsifier compound, and that the foodstuff end product may comprise a dairy product such as ice cream. Examples 2 and 3 demonstrate the incorporation of the composition into ice cream, including freezing.

Thus, the claims are anticipated by Sondergaard et al. Regarding the instantly-claimed limitation where the base composition "is packed into a container", this would be considered to be inherent to the process, or at the very least obvious to have utilized, since the processing and production of the pectin composition would have been done inside a container. The method "steps" as set forth in claim 1 have been met by the reference, as have the required material components. Applicant's claims do not appear to differentiate from the teachings of the reference. Given the fact that the claims do not clearly set forth the method (see the rejection under 35 USC 112, above), it would not have involved an inventive step for one of ordinary skill in the art to have slightly modified the order of the steps in producing the disclosed invention, thus still meeting the instant claims.

Regarding the limitations recited in instant claims 2-4, these terms are subject to a broad interpretation yet within a reasonable scope of definition. The "remote location" limitation of claim 2 reads upon the movement of the container from one area of a countertop to another, as "remote" may simply mean a separated distance. The term "disposable" is open to interpretation, as almost all physical items may be, and/or necessarily need be, disposed at some point in time. Similarly, regarding claim 4, the term "one serving" may be broadly interpreted, and as demonstrated by the reference, the entire contents of the container may be combined with water and/or air, including forcible aeration.

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Regarding the inclusion of a protein within the composition of claim 11, as enzymes are inherently proteins, and since the disclosed composition contains enzymes, this meets the claim limitation. Alternatively, as some of the enzyme may not be “essentially inactive”, this would mean that some of the enzyme composition would be active to some degree and thus two forms of the enzyme would be present (active and inactive), and would serve to meet the general “protein” limitation as well as the essentially inactivated enzymatic oxidation system limitation.

Finally, regarding instant claim 18, the inclusion of a salt such as a calcium salt, would have been inherent to the process using a calcium-dependent pectin; alternatively, given the nature of this form, it would have been obvious to one of ordinary skill in the art to have included a calcium salt for the desired effect of the pectin present in the composition. The inclusion of ascorbic acid would have been an obvious step for use as a simple, well-known preservative and antimicrobial agent in foodstuffs, and would not have involved an inventive step to include.

### ***Claim Rejections - 35 USC § 103***

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sondergaard et al. in view of Weibel (US PAT 5,008,254, of record).

Sondergaard et al. is taken as cited above.

Weibel discloses a sugar beet pectin composition, where “beet pectins, prepared by this process, provide unusual emulsion stabilizing properties for flavor oils, vegetable oils and dairy products.” Various favorable properties of the composition are set forth in the description. “In general, the sugar beet pectin may be added to foods in many forms and formulations. Thus, it may be added to improve the qualities of gels, sols, aerosols, foams, emulsions and, generically, dispersions of all types.”

Columns 3-4 teach the following. “Viscosity control, smooth texture, and fat mimicry are all enhanced with sugar beet pectin.” “Smoothness and lightness of texture are enhanced by incorporation of air during freezing of the ice cream and, therefore, “overrun” is normally desirable. The modified sugar beet pectin is demonstrated as a partial replacement for dairy cream whereby it may aid in achieving adequate overrun, and/or in providing rich creamy texture.” Regarding whipped products, the reference states that “stable aerated products are attained through the use of materials that produce a stabilizing elastic structure surrounding the air globule. Thus, in whipped cream, aggregated fat globules intermingle



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with protein complexes to provide an elastic structure about the fat globules. ... Sugar beet pectin has great potential in stabilization of foamed products."

Thus, it would have been obvious to one of ordinary skill in the art to have utilized the (sugar beet) pectin composition of Sondergaard et al. within an aerosol can type of container for producing an aerated/whipped-cream-type dairy confection. Sondergaard et al. disclose a (sugar beet) pectin with an oxidative enzyme in a composition, which is useful in various foodstuffs including dairy products such as ice cream. Weibel disclose the advantages of using sugar beet pectin within dairy products such as ice cream, and within whipped and aerated dairy products such as whipped cream, which was often sold commercially in a pressurized aerosol can. Further, as the benefits of the pectin compositions were positively set forth in both references, and because each composition relates to the same field of endeavor and solves a similar problem, the combination of the teachings of the two references would be proper.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-19 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of copending Application No. 10/471,482. Although the conflicting claims are not identical, they are not patentably distinct from each other because each set of claims are drawn to a composition comprising a ferulylated polymer and an oxidant capable of

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oxidizing the ferulyolated polymer (i.e. an enzymatic oxidation system), and the aeration of this composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Hendricks whose telephone number is (571) 272-1401. The examiner can normally be reached on M-F (8:30am-6pm); First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**KEITH HENDRICKS  
PRIMARY EXAMINER**